FlyBy Math™ Alignment
Middle School Mathematics Core Content for Assessment
version 4.0 October 2005

Number Properties and Operations

Estimation

Content Statement	*FlyBy Math*™ Activities
MA-06-1.2.1 **Students will estimate to solve real-world and/or mathematical problems with whole numbers, fractions, decimals, and percents, checking for reasonable and appropriate computational results.** **DOK - 2**	--Predict outcomes and explain results of mathematical models and experiments. --Compare predictions, calculations, and experimental evidence for several aircraft conflict problems.

Ratios and Proportional Reasoning

Content Statement	*FlyBy Math*™ Activities
MA-06-1.4.1 **Students will describe and apply ratios to solve real-world problems.** **DOK - 2**	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

Measurement

Measuring Physical Attributes

Content Statement	*FlyBy Math*™ Activities
MA-06-2.1.1a *Students will estimate measurements in standard units including fractions and decimals.*	--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.

Geometry

Coordinate Geometry

Content Statement	*FlyBy Math*™ Activities
MA-06-3.3.1 **Students will identify and graph ordered pairs on a positive coordinate system, correctly identifying the origin, axes, and ordered pairs; and will apply graphing in the coordinate system to solve real-world problems.** **DOK - 2**	--Plot points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system to describe the motion of two airplanes.

Data Analysis & Probability

Data Representations

Content Statement	*FlyBy Math™* Activities
MA-06-4.1.1 **Students will analyze and make inferences from data displays (drawings, tables/charts, pictographs, bar graphs, circle graphs, line plots, Venn diagrams, line graphs, stem-and-leaf plots).** **DOK - 3**	--Represent distance, rate, and time data using tables, line plots, bar graphs, and line graphs. --Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
MA-06-4.1.1a *Students will explain how different representations of data (e.g., tables, graphs, diagrams, plots) are related.*	--Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
MA-06-4.1.2 **Students will construct data displays (bar graphs, line plots, Venn diagrams, tables, line graphs), and will explain why the type of display is appropriate for the data.** **DOK - 2**	--Represent distance, rate, and time data using tables, line plots, bar graphs, and line graphs. --Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

Algebraic Thinking

Patterns, Relations, and Functions

Content Statement	*FlyBy Math™* Activities
MA-06-5.1.2 **Students will create tables for functions and will apply the tables to solve real-world problems.** **DOK - 2**	--Represent distance, speed, and time relationships for constant speed cases linear equations and a Cartesian coordinate system.
MA-06-5.1.2a *Students will describe, define, provide examples of, and apply to real world and/or mathematical situations functions using tables, graphs and verbal rules.*	--Use tables, graphs, and equations to solve aircraft conflict problems.
MA-06-5.1.2b *Students will explain how tables and graphs and patterns relate to each other*.	--Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
MA-06-5.1.3a *Students will explain how the change in one quantity affects change in another quantity (e.g., in tables or graphs, input/output tables).*	--Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates. --Interpret the slope of a line in the context of a distance-rate-time problem.